

2008 AMOS keynote speakers discuss the future of SSA

The premier conference in the nation devoted to space surveillance kicked off its ninth year on Wednesday, September 17th at the Wailea Marriott Resort in Maui.

The 2008 Advanced Maui Optical and Space Surveillance (AMOS) Technologies Conference attracted a record 565 attendees from around the globe. Hosted by the Maui Economic Development Board (MEDB), the three-day event remains unmatched in its scope of cutting-edge presentations focused on Space Situational Awareness (SSA) and related fields.

During her opening remarks, MEDB President Jeanne Skog acknowledged the high level of technical expertise, while emphasizing her organization's goal to design a unique seminar experience that allows scientists, engineers and managers from academia, industry, government and the military to exchange the latest information, while forging new partnerships.

U.S. Senator Daniel K. Inouye (via video link) remarked that MEDB's efforts have spawned a new generation of technologies and high tech companies on Maui that, in turn, are helping to protect the entire nation.

This year, the AMOS Conference was honored to have three of the nation's top SSA military and government experts as keynote speakers. As he has done so well in past years, senior defense analyst Colonel Kirk Lewis (Ret.) gave a brief introduction to each one:

- **Lieutenant General William L. Shelton**, Commander, Joint Functional Component Command for Space, U.S. Strategic Command, and the Commander, 14th Air Force (Air Forces Strategic), Air Force Space Command
- **Colonel Michael Taylor**, Commander, Space Superiority Systems Wing at Los Angeles Air Force Base
- **Joshua T. Hartman**, Senior Advisor, Under Secretary of Defense for Acquisition, Technology and Logistics

Anomaly or attack?

Lt. Gen. Shelton offered a dramatic look at the future of SSA by presenting three dramatic scenarios of space-related situations that could occur at any given moment. The challenge in each was to correctly identify the cause – was this an operational glitch, a satellite accident or an orchestrated attack?

"The space environment is more complex than ever," Lt. Gen. Shelton said. He emphasized that the only way we can avoid making judgment errors is to improve our core space awareness capabilities. This translates to improved command and control SSA capabilities, a synergy of available assets and a collaborative multinational approach.

"As time goes on and other nations launch more spacecraft into the blind, the chances that a collision will occur, really goes up."

Lt. Gen. William Shelton

Transforming SSA capabilities

Colonel Taylor continued the topic, talking about how to “implement” the future of SSA. With the growing U.S. dependence on space as well as increasing international space exploitation, he says, we need to design and develop a new national space strategy.

“We need to find a better way to analyze the space data we have so we can act,” Col. Taylor emphasized. “By focusing on integrating multiple data sources, we can give users decision options for courses of action.”

According to Col. Taylor, the future of SSA requires a netcentric, service-oriented architecture delivered today, and supported by unprecedented collaboration.

Integration by design

Sr. Advisor Josh Hartman acknowledged that the U.S. can no longer keep pace with the evolving threat environment because we cannot satisfactorily watch, understand or react to events affecting on-orbit systems. So what can we do?

“We must develop a more robust SSA Architecture that addresses today’s environment and integrates all of our contributing sensors and technology,” Mr. Hartman said.

This “integration by design” will not only enable current and real-time SSA capabilities, it will also improve timeliness, accuracy, persistence and capacity, while maximizing the use of the current SSA infrastructure, he said.

“We need to find new ways to pull knowledge from available sources -- not new technology.”

- Josh Hartman, Sr.
Defense Advisor

Conference sessions

This year’s series of conference sessions featured 80 technical papers covering a wide range of space-related topics including SSA Architecture, Instrumentation Design, Atmospheric, Adaptive Optics, Imaging, Astrodynamics and Orbital Debris.

Poster sessions

Poster sessions give authors from all over the world the opportunity to present their work and conduct in-depth discussions with conference participants in a dedicated two-hour session.

2008 highlighted 27 poster selections ranging from *Simultaneous Single Site Color Photometry of LEO Satellites* to *Optical Studies of Orbital Debris* to *Autonomous Global Sky Surveillance with Real-Time Robotic Follow-Up*.

Poster display boards were arranged in an informal setting with seating and light refreshments to encourage interaction with the poster authors. The venue was also open throughout the week serving as a locus for side discussions and pop-up meetings.

Exhibitors

AMOS featured 16 exhibitors representing an outstanding cross-section of space-related technology companies, suppliers and services in Hawaii, nationally and worldwide:

- Air Force Research Laboratory, RDSM
- Air Force Research Laboratory, Small Business Office
- Analytical Graphics, Inc.
- Applied Optimization, Inc.
- The Boeing Company
- CoorsTek Technical Ceramics
- FLIR Systems
- HnuPhotonics
- Lockheed Martin – Santa Barbara Focalplane
- Oceanit
- Office of Aerospace Development, State of Hawaii
- Pacific Disaster Center
- Precision Asphere, LLC.
- Rayleigh Optical Corp
- RC Optical Systems Inc.
- Science Applications International Corporation (SAIC)

“The AMOS Conference is an excellent venue for technical exchange, identifying business opportunities, making contacts and learning about the SSA community.”

Conference Sponsors

A special mahalo to our title sponsor, The Boeing Company, along with featured sponsor, Raytheon. Other conference sponsors included AGI, County of Maui, Lockheed Martin, Oceanit, Pacific Defense Solutions, SAIC, Northrop Grumman and Atmospheric and Environmental Research.